

From: [Collinson, Peter](#)
To: [james.e.hanzalik@uscg.mil](#); [charlie.henry@noaa.gov](#); [Steve Mason/R6/USEPA/US@EPA](#); [Rainey, David I](#)
Cc: [Malnor, Lawrence K](#); [Carragher, Peter D](#)
Subject: FW: End of Day Status Report 17 May 2010 R/V Brooks McCall
Date: 05/18/2010 10:37 AM
Importance: High
Attachments: [File 2 tdi_brooks_mccall_sampling_0517.pdf](#)
[File 3 Cruise 2 Sampling Tracking Master.xls](#)
[File 4 End of Cruse 2 Inventory 5 17 10.doc](#)

Dear Team,

This is the summary sampling report from the R/V Brooks McCall - generated on Monday 17th May 2010.

There are 2 emails from the report. This the first of two.

Regards,

Peter Collinson

From: Don Aurand [mailto:d.aurand@ecosystem-management.net]
Sent: 17 May 2010 22:58
To: Collinson, Peter
Cc: 'David Wright'; Speer, Jennifer G; Malnor, Lawrence K
Subject: End of Day Status Report 17 May 2010 R/V Brooks McCall

Four stations were occupied today in conjunction with dispersant injection monitoring. All sampling locations are shown on the Figure in attached File 2. The first station of the day (samples in the B24 series) was located at a background site 21 nm east/southeast of the well head. This was an area of deep water well clear of the spill site. No evidence of hydrocarbons was seen. This station was sampled early in the morning and then the vessel transited back to the well head to run another transect to the SW, along the plume axis provided in yesterday's modeling information.

The second set of samples (samples in the B25 series) was taken at the same location as sample series B20 (15 May) and sample series B21 (16 May) providing three consecutive days of data from this station. The fluorometry trace at this station on 16 May was much diminished over that seen on 15 May; the trace obtained today was similar to that seen on 16 May. The signal on 15 May and 17 May extended from approximately 1100 to 1400 meters, on 16 May from 1100 to 1200 meters. No visible dispersed oil was seen in any of the water samples, which looked clear.

The remaining two stations were taken in a SW direction from the first station, but at greater distances than yesterday. The first was 8 km from the well head, and the last was taken at 16 km from the well head. Qualitatively, concentrations are declining between stations, but there were still indications of some oil at depth (1000 to 1100 m) at 16 km. Fluorometry and LISST analysis indicated a peak in UV-fluorescence and particles less than 60um in diameter consistent with dispersed oil droplets at depth at all three stations. Details on the LISST results are given in File 5. There appears to be some evidence of oil droplets rising up the water column as the plume was dispersed with distance from the wellhead.

Dissolved oxygen values taken on the oxygen probe of the CTD unit did not indicate a significant decrease in DO in the vicinity of the hydrocarbon signal at any of these stations. We have noticed apparently anomalous results for the colorimetric titration approach, as discussed below.

The R/V Brooks McCall was outfitted with a full ocean depth CTD package, including a SBE dissolved oxygen sensor to capture the dissolved oxygen profile during CTD cast. Discrete measurements were

also made using colorimetric method and potentiometric methods. The colorimetric method employed a LaMotte 5860 Field Kit with premade reagents. The potentiometric method used an Extech DO700 hand-held probe to measure dissolved oxygen. The corresponding SBE output data and discrete measurements are contained in the electronically attached excel file "File 8 RV Brooks McCall DO Comparisons Cruise Leg 2 05-14-110 to 05-17-10.xls". The workbook contains a data comparison for Stations B19 – B28, with graphical presentation of available data for stations B20 – B28. At Station B25, 5 colorimetric and 11 potentiometric data points were acquired, as well as SBE DO data. It is evident from this data that the Extech probe show significantly better agreement to the CTD data at all depths. It also appears that the LaMotte kit cannot satisfactorily determine the dissolved oxygen concentration. As a result, the suggested method for dissolved oxygen measurements will be to use the Extech hand-held probe.

The C3 Turner Submersible Towed Fluorometer was not deployed. See yesterday's report.

Toxicity testing was completed and details are provided in Files 7A and 7B. In summary, a high incidence of rotifer survival was recorded in all samples tested. Only three treatments recorded % survival less than 80%, the lowest (75%) being B20F. No relationship between mortality and fluorescence readings was apparent, and survivorship in 'plume samples' were generally comparable with water from the uncontaminated site (B19). No relationship was apparent between rotifer mortality and the degree of dilution of any samples.

All equipment is functioning properly, however on the last station one Niskin bottle failed to release, so only ten water samples were collected.

A total of 189 samples were collected on this cruise. Of these, 105 are 1-L amber bottles for water analysis, 82 are 40 ml VOA bottles for volatiles analysis, and 1 are 8 oz bottles with samples of surface oil. An inventory of remaining supplies is presented in File 4. Areas with shortages this time will be replenished by bringing supplies from Houma with the Entrix crew change, due to the short lead time. A major resupply will be needed after the next cruise. Also, we need to start getting the coolers used for sample transport returned to the vessel.

The following files are attached to this email. The first three files are cumulative for this cruise (15 to 17 May) and should be replaced when updated. The remaining files are specific to each day's operations.

1. A shape file of our station locations which can be imported to mapping software.
2. A pdf graphic based on the shape file showing our stations.
3. An Excel spreadsheet with six tabs, containing station specific information on samples.
4. Equipment and inventory status
5. A summary of the LISST results
6. CTD plots for today's stations
7. A summary of the toxicity testing status
8. An analysis of oxygen analytical techniques

Don

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R/V Brooks McCall